

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
12 September 2002 (12.09.2002)

PCT

(10) International Publication Number
WO 02/070177 A2(51) International Patent Classification⁷: **B23B 31/30**

(21) International Application Number: PCT/US02/04714

(22) International Filing Date: 12 February 2002 (12.02.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/268,281 14 February 2001 (14.02.2001) US(71) Applicant (for all designated States except US): **COMMAND TOOLING SYSTEMS, LLC** [US/US]; P.O. Box 9, 13931 Sunfish Lake Boulevard, Ramsey, MN 84405 (US).

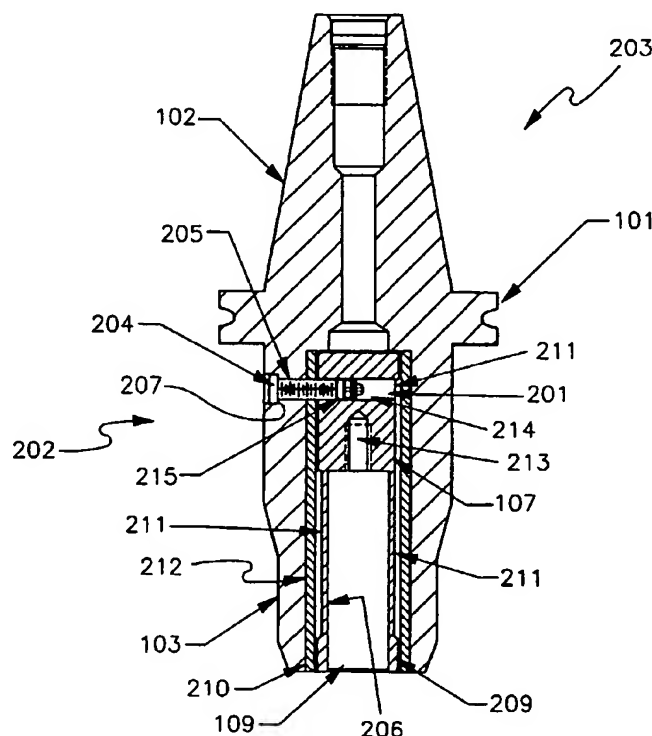
(72) Inventors; and

(75) Inventors/Applicants (for US only): **HUIJBERS, Johannes, W., G., M.** [NI/US]; 6334 St. Johns Drive, EdenPrairie, MN 55346 (US). **MILLS, Dennis, L.** [US/US]; 1811 May Street, Apartment 7, Long Lake, MN 55356 (US).(74) Agent: **REID, Malcolm, D.**; Gray, Plant, Mooty, Mooty, & Bennett, P.A., P.O. Box 2906, Minneapolis, MN 55402 (US).

(81) Designated States (national): AF, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW). Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM).

[Continued on next page]

(54) Title: **HYDRAULICALLY ACTUATED HOLDER**

(57) Abstract: A hydraulic holder (203) of a cutting tool or workpiece with a hydraulic circuit (211) contained in a cartridge (107) separate from the holder (203). The cartridge (107) is fixedly inserted in an axial bore (106) of the holder for clamping a tool or workpiece. The hydraulic cartridge (107) comprising a first actuator access port (105) in the toolholder; a second actuator access port (108) in a cartridge shell (210); a cartridge body (200) affixed fluid tight in the cartridge shell (210); the cartridge body having (i) a piston cylinder (204) in axial alignment with the first actuator access port and the second actuator access port.

WO 02/070177 A2